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SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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EXAMINER	
MATTSON, B	
ART UNIT	PAPER NUMBER
234	7

DATE MAILED: 11/25/86

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☒ Responsive to preliminary communication filed on 5/13/85 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), ~~days~~ from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice re Patent Drawing, PTO-948.
3. ☒ Notice of Art Cited by Applicant, PTO-1449
4. ☐ Notice of informal Patent Application, Form PTO-152
5. ☐ Information on How to Effect Drawing Changes, PTO-1474
6. ☐ _____

Part II SUMMARY OF ACTION

1. ☒ Claims 1-102 are pending in the application.

   Of the above, claims _____ are withdrawn from consideration.

2. ☐ Claims _____ have been cancelled.

3. ☐ Claims _____ are allowed.

4. ☒ Claims 1-102 are rejected.

5. ☐ Claims _____ are objected to.

6. ☐ Claims _____ are subject to restriction or election requirement.

7. ☒ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.

8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on _____. These drawings are ☐ acceptable; ☐ not acceptable (see explanation).

10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed _____, has been ☐ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.

12. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

15. This application has been examined.

16. The preliminary amendment filed on May 13, 1985 is hereby acknowledged.

17. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the bucket, means for decoupling, resilient tubing, stationary processor means, weighing device (claim 26), loader, stationary platform scale, first planar plate, second planar plate, stabilization means, means on-board (claims 76 and 90), plurality of chambers, piston assembly, means remote (claim 95), calibration plate, and mercury switch must be shown or the feature should be cancelled from the claim. No new matter should be entered.

18. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. 112, first paragraph, as failing to adequately teach how to make and/or use the invention, i.e. failing to provide an enabling disclosure.

The specification fails to adequately teach how to detect and interpret pressure spikes. The interpretation of pressure spikes to indicate the degree of road roughness is inadequately disclosed.

19. Claims 4, 19, 37, and 52 are rejected under 35 U.S.C. 112, first paragraph, for the reasons set forth in the above objection to the specification.

20. Claims 1-102 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 contains many terms which are vague and indefinite such as "at least a predetermined portion" and "in a substantially uniform manner". Exact terms must be used to distinctly claim the invention. Further, it is unclear how the "assembly distributes". In addition, does the "its" in line 19 of the claim refer to the pressure data or the change in weight of said truck body?

In a number of claims, antecedent basis for specific items does not exist. Many of the errors involve switching between a singular and plural sense. The following is a listing of the words lacking antecedent basis and its corresponding claim. The listing is intended to be as complete as possible, but because of the numbers of errors involving improper antecedent basis, it may be incomplete. The following require correction: the degree of road roughness (claims 4, 19, 37) said plurality of trucks (claim 11), second processor means (claim 12), the degree of tire load (claim 21), the axle weight (claim 29), said processor means (claim 33), the tare weight (claims 34

and 91), the remaining weight capacity (claim 35), one of said on-board weighing devices (claim 44), first transcievers (claim 51), said truck frame (claim 52), the elapsed time (claim 55), the degree of tire wear (claim 55), the vehicle's load (claim 55), hauling parameters (claim 58), said truck frame (claim 60), said truck body (claim 60), the distribution of the weight (claim 63), the portions of the weight (claim 63), the pressure in the hydraulic fluid (claim 65), the predetermined tare weight (claim 68), the pressure (claim 70), the relative position (claim 70), the relative axial loads (claim 71), raw data (claim 75), selected vehicle groups (claim 75), said vehicle (claim 76), selected trucks (claim 76), loader performance (claim 79), said data (claim 79 and 80), the interface (claim 82), the frame of said truck (claim 83), the body of said truck (claim 83), the net weight (claim 91), said truck frame (claim 95), said truck body (claim 95), the radial forces (claim 99), the pivotal position (claim 100), the proper load or dump destination (claim 102) and the proper vehicle destination (claim 102).

In addition to the antecedent problems in the claims, a number of clarity problems exist. Claims need to be written in such a way that distinctly claims the invention, i.e. in specific terms. As to Claim 22, the use of the "reference number" is unclear and the phrase "manipulating said data" is vague. As to claim 26, a weighing device distinct from said pressure sensor is not definite. As to Claim 32, the phrase "said body is

pivotally between..." is unclear in meaning. As to Claims 33 and 34, the word "monotohic" is believed to be incorrect. Further in claim 33, the "(1)" in line 20 is unclear in its purpose. Further in claims 33 and 34, also claims 36, 81, 83 and 89, it is unclear what a monotonic change is and how a monotonic change is detected. Something that is monotonic never increases or decreases so to detect a change is difficult. As to Claim 51, the phrase "transmitting said control data to for reception" is confusing due to poor wording. As to Claim 58, like Claim 22, the "identifier number" and the phrase "manipulating said data" are vague and indefinite. As to Claim 67, lines 8-10 do not make sense. The phrase "of a vertical plane" should be placed after the word "location" if that is what is being determined. As is, it is unclear. Lines 11-14 of Claim 67 are also unclear. It is unclear how the "dividing" is performed and how the ratios are calculated. As to Claim 69, it is unclear which sensors provide an indication of fore-and-aft weight and which indicate side-to-side weight distribution. What makes up a group less than the whole? As to Claim 70, it is unclear how the relative position of the center of gravity is estimated. As to Claim 73, the phrase "to ensure a known surface area of contact" is unclear. As to Claim 83, line 2, it is unclear what composes distinct groups of dump-body trucks. As to Claim 87, it is unclear how the frame can move vertically without moving side-to-side or fore-to-aft. Claim 90, like

Claim 1, is unclear in how the "assembly distributes". Further, "a substantially uniform manner" is vague. As to Claim 95, if the assembly provides more than one output signal, will the remote means receive more than one signal, i.e. will the remote means receive as many output signals as are provided? Lines 16-23 of Claim 99 are unclear. The phrase "are at least partially absorbed" is vague and indefinite.

All dependent claims, Claims 2-32, 36-43, 45-51, 53, 54, 59, 61-66, 68, 71, 73, 74, 77-82, 84-86, 88, 89, 91-94, 96-98, and 101, are rejected in addition to the reasons set forth above for being dependent upon one or more claims with no clear meaning making their own meaning unclear.

21. Claims 7 and 40 are further rejected under 35 U.S.C. 112, fourth paragraph, as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claims 1 and 35 each establish an apparatus with a pressure sensor assembly between a truck body and truck frame. To have any type of apparatus between two other components would serve as a "cushion" between the two components. Therefore, Claim 7 and 40 fail to further limit Claim 1 and 35, respectively.

22. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless-
>
> (b) the invention was patented or described in a printed publication in this or a foreign

> country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 24, 26, 30, 34, 63, 64, 69, 87 and 88 are further rejected under 35 U.S.C. 102b as being anticipated by Lindstrom et al.

The Lindstrom et al reference discloses a device for indicating the load on a truck accumulated through partial weighings to arrive at the total load weight. A load is placed on a truck frame, and a transducer sends signals indicative of the weight to a processor. The weight can be displayed via the processor means. The device automatically accounts for the tare weight. Each of these features are presented in the aforementioned claims of the present invention and thus are not patentable over Lindstrom et al.

23. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 2-10, 19-22, 27, 29-33, 35-43, 52-59, 65,

89-93 and 100-101 are further rejected under 35 U.S.C. 103 as being unpatentable over Lindstrom et al in view of ordinary skill in the art.

The claims listed each consist of obvious and well-known modifications to a truck body or are merely design choices that can be performed by any skilled artisan. For example, to position the truck body on the truck frame in a certain way to allow pressure to be exerted only in given areas is merely a structural design choice. Further, to monitor and display a variety of data indicating the status of the truck is well-practiced. For example, speedometers, odometers, oil pressure meters, light indicators displaying overload or usage, etc. are well-known features that can be easily designed to monitor the desired attributes. To design a processor to detect, store, and display any type of data is well-known and can be easily implemented in nearly any given system. Such conventional practices as noted should be referenced in the patents cited by the examiner as being of interest. Specific reference is made to Furcini, Tarpley, Hartman, Griffin et al, Horst-Rudolf, and Perini.

24. Claims 11-18, 23, 25, 44-51, 60-62, 75-86, 95-98, and 102 are further rejected under 35 U.S.C. 103 as being unpatentable over Lindstrom et al in view of ordinary skill in the art as applied to claims 1-10, 19-22, 24, 26, 27, 29-43, 52-59, 63-65, 69, 87-93, 100-101 above, and further in view of article from March 1985 issue of Coal Age magazine.

The article from the March 1985 issue of Coal Age magazine discloses a system for monitoring and controlling operations for trucks between dumping and loading sites. The computer knows what is occurring in all phases of operation via operator's commands on microcomputered panels transmitted through repeater towers which extend the radio signal coverage. The functions to be performed by the computer are chosen by mere design choice and can be performed by any skilled artisan. The signals to be sent to the computer regarding the status of an individual truck or a plurality of trucks can be chosen from a list of many options, and it is well-known how to generate data signals for transmission to a computer using any of the options. It would be obvious to combine a monitor and control system like the one disclosed by Coal Age magazine with the previously cited references to achieve the above claims. Such an obvious combination could be performed by any skilled artisan.

25. Claims 28, 66-68, and 70-72 are further rejected under 35 U.S.C. 103 as being unpatentable over Lindstom et al in view of Coal Age magazine article as applied to claims 1-27, 29-65, 69, 75-93, 95-98, and 100-102 above, and further in view of Nakane et al.

While it would be obvious to one with ordinary skill in the art to program a processor means to perform any desired function, the Nakane et al reference is cited to specifically point out a processor which computes the centroid position (or center of gravity) of

loaded cargo on a truck. To use such an apparatus in combination with the above cited references would be obvious and is well-practiced.

26. Claim 99 is rejected under 35 U.S.C. 103 as being unpatentable over Merriman et al.

The Merriman et al reference discloses an end clamp for sealing a flexible wall tube. Sealed joint lines results from tightening nuts about threaded bolts to firmly pinch the ends. It is well-known in the art to seal the end of a tubing. The Merriman et al reference is just one of many known devices. It would be obvious to a skilled artisan to slightly modify the Merriman et al reference to achieve the apparatus of the present invention. (Claim 99)

27. Claims 73 and 74 are rejected under 35 U.S.C. 103 as being unpatentable over Lindstrom et al.

The Lindstrom et al reference can be implemented in numerous devices. To use the apparatus set forth by Lindstrom et al on a level ground surface is one obvious implementation. To modify the Lindstrom et al reference by inserting flexible tubing secured to pressure sensors between two planar plates is an obvious modification. A bathroom scale could easily be modified, as well, to perform this function.

28. References.

Additional references cited by examiner as being of interest should be considered by the applicant in his response. While many of the references were directly cited in the action, a number of additional

references are being cited to show the well-practiced areas in the art. References cited by the applicant have been considered, and two have been used against the claims. Like the references cited by the examiner, the references cited by the applicant contain obvious modifications which can be easily implemented by the skilled artisan.

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Mattson whose telephone number is (703) 557-8057.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 557-2878.

BM/MS

11/25/86

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